IN THE CLAIMS:

Amend claims 45, 49, 50 and 58, and cancel claims 46-48 and 51-57 without prejudice or admission, as shown in the following listing of claim which replaces all previous listings and versions of claims.

1. (previously presented) A near-field optical head, comprising:

a slider supported by a suspension arm providing a load weight and obtaining a floating force due to a relative motion of the slider with respect to a recording medium so that a gap is produced between a bottom surface of the slider and a surface of the recording medium due to a balance between the load weight and the floating force; and

a probe comprising a through-hole formed in a reduced thickness portion of the slider and terminating in a microscopic aperture at the bottom surface of the slider for producing a near-field light or converting a near-field light produced on a surface of the recording medium into a propagation light without a lens being disposed proximate the microscopic aperture for producing or converting the near-field light, and a light source mounted on a top surface of the reduced thickness portion of the slider above the through hole, so that a light path is defined by the light source, the through-hole, and the microscopic aperture;

wherein the recording medium and the probe interact through the near-field light when the slider is caused to undergo scanning movement relative to a surface of the recording medium to thereby effect at least one of the recording of information onto the recording medium and the reproducing of information stored on the recording medium; and

wherein the microscopic aperture is provided in a protruding portion of the bottom surface of the slider that protrudes toward the recording medium so that a distance between the microscopic aperture and the recording medium is smaller than a distance between a non-protruding portion of the bottom surface of the slider closest to the recording medium and the recording medium so that the probe can be brought to within several nanometers to several tens of nanometers close to the recording medium to enable high resolution optical reading and/or recording of data on the recording medium.

2. - 18. (canceled).

19. (previously presented) A near-field optical head comprising: a support member mounted to undergo relative movement with respect to a sample; and a probe protruding from a bottom surface of the support member and comprised of a through-hole formed in a reduced thickness portion of the support member and terminating in a microscopic aperture at

the bottom surface of the support member for producing a near-field light or converting a near-field light produced at a surface of the sample into a propagation light without a lens being disposed proximate the microscopic aperture for producing or converting the near-field light; and a light source disposed on a top surface of the reduced thickness portion of the support member above the through hole, so that a light path is defined by the light source, the through-hole, and the microscopic aperture; wherein the sample and the probe interact through the near-field light when the support member undergoes relative movement with respect to the surface of the sample; and wherein the microscopic aperture is provided in a protruding portion of the bottom surface of the support member closer to the sample than a non-protruding portion of the bottom surface of the support member so that the microscopic aperture can be brought to within several nanometers to several tens of nanometers close to the sample.

20. (previously presented) A near-field optical head according to claim 19; wherein the support member comprises a slider supported by a suspension arm for providing a load weight and producing a floating force in response to relative motion thereof with respect to the sample so that a gap is formed between the probe and the sample due to a balance between the load weight and the floating force.

21. - 31. (canceled).

32. (previously presented) A near-field optical head according to claim 19; wherein the probe comprises a tapered projection mounted to the support member and having a sharpened tip protruding from the bottom surface of the support member.

33. (previously presented) A near-field optical head according to claim 1; further comprising a through-hole formed in the slider and terminating in the microscopic aperture.

34. (previously presented) A near-field optical head according to claim 33; further comprising a light shielding layer covering the through-hole except for the microscopic aperture.

35. (previously presented) A near-field optical head according to claim 34; further comprising a light source disposed on a top surface of the slider above the through-hole so that a light path is defined by the light source, the through-hole, and the microscopic aperture.

36. (previously presented) A near-field optical head according to claim 1; further comprising a through-hole formed in the slider and terminating in the microscopic aperture; a light shielding layer covering the through-hole

except for the microscopic aperture; and a light source mounted on a top surface of the slider above the through hole, so that a light path is defined by the light source, the through-hole, and the microscopic aperture.

37. (previously presented) A near-field optical head according to claim 19; further comprising a through-hole formed in the support member and terminating in the microscopic aperture.

38. (previously presented) A near-field optical head according to claim 37; further comprising a light shielding layer covering the through-hole except for the microscopic aperture.

39. (previously presented) A near-field optical head according to claim 38; further comprising a light source disposed on a top surface of the support member above the through hole so that a light path is defined by the light source, the through-hole, and the microscopic aperture.

40. (previously presented) A near-field optical head according to claim 19; further comprising a through-hole formed in the support member and terminating in the microscopic aperture; a light shielding layer covering the through-hole except for the microscopic aperture; and a light source disposed on a top surface of the support member above

the through hole, so that a light path is defined by the light source, the through-hole, and the microscopic aperture.

41. (canceled).

42. (previously presented) A near-field optical head according to claim 1; further comprising a light shielding layer covering the through-hole except for the microscopic aperture.

43. (canceled).

44. (previously presented) A near-field optical head according to claim 19; further comprising a light shielding layer covering the through-hole except for the microscopic aperture.

45. (currently amended) A near-field optical head, comprising:

a slider supported by a suspension arm providing a load weight and obtaining a floating force due to a relative motion of the slider with respect to a recording medium so that a gap is produced between a bottom surface of the slider and a surface of the recording medium due to a balance between the load weight and the floating force; and

a probe comprising a through-hole formed in a reduced thickness portion of the slider and terminating in a microscopic aperture at the bottom surface of the slider for

producing a near-field light or converting a near-field light produced on a surface of the recording medium into a propagation light without a lens being disposed proximate the microscopic aperture for producing or converting the near-field light, and a light source mounted on the reduced thickness portion of the slider above the through-hole, so that a light path is defined by the light source, the through-hole, and the microscopic aperture;

wherein the recording medium and the probe interact through the near-field light when the slider is caused to undergo scanning movement relative to a surface of the recording medium to thereby effect the recording of information onto the recording medium and the reproducing of information stored on the recording medium; and

wherein the microscopic aperture is provided in a protruding portion of the bottom surface of the slider that protrudes toward the recording medium so that a distance between the microscopic aperture and the recording medium is smaller than a distance between a non-protruding portion of the bottom surface of the slider closest to the recording medium and the recording medium so that the probe can be brought to within several nanometers to several tens of nanometers close to the recording medium to enable high resolution optical reading and/or recording of data on the

recording medium by the use of near-field light alone and without the use of a coil to locally heat the recording medium.

46.-48. (canceled).

49. (currently amended) A near-field optical head according to claim ~~48~~ 45; further comprising a light shielding layer covering the through-hole except for the microscopic aperture.

50. (currently amended) A near-field optical head comprising: a support member mounted to undergo relative movement with respect to a recording medium; and a probe protruding from a bottom surface of the support member and having a through-hole formed in a reduced thickness portion of the support member and terminating in a microscopic aperture ~~formed therein~~ for producing a near-field light or converting a near-field light produced at a surface of the recording medium into a propagation light without a lens being disposed proximate the microscopic aperture for producing or converting the near-field light, and a light source disposed on a top surface of the reduced thickness portion of the support member above the through hole, so that a light path is defined by the light source, the through-hole, and the microscopic aperture; wherein the recording medium and the probe interact through the near-field light when the support member undergoes

relative movement with respect to the surface of the recording medium; and wherein a part of the bottom surface of the support member closest to the recording medium is more distant from the recording medium than the microscopic aperture so that the microscopic aperture can be brought to within several nanometers to several tens of nanometers close to the sample to enable optical reading and/or recording of data on the recording medium by the use of near-field light alone and without the use of a coil to locally heat the recording medium.

51.-57. (canceled).

58. (currently amended) A near-field optical head according to claim 50 ~~57~~; further comprising a light shielding layer covering the through-hole except for the microscopic aperture.